

IN THE CLAIMS

Please amend the claims as follows:

1. (Cancelled).

2. (Currently Amended): A separation process for platinum group elements comprising:

(A) treating a material comprising selenium and/or tellurium, and platinum group elements, with alkali,

(B) leaching the selenium and/or tellurium, and

(C) separating a leaching residue comprising the platinum group elements and a selenium and/or tellurium leachate

~~-A separation process according to claim 1, wherein~~
~~said step in (A), for treating a material containing selenium/tellurium and platinum group elements with alkali is a step in which~~ a flux comprising a mixture of caustic soda and sodium nitrate is added to said material ~~containing selenium/tellurium comprising the selenium and/or the tellurium, and the platinum group elements, to form a mixture, and [[a]]~~
~~the resulting mixture is melted by heating to a temperature ranging from 350 °C to 450 °C exceeding a eutectic temperature of said flux,~~

~~said step in (B) for the leaching of the selenium and/or the tellurium is conducted by leaching the selenium and/or the tellurium from the melt with water, thereby forming a liquid fraction and a residue, selenium/tellurium is a step for leaching an obtained melt with water, and~~

~~said step in (C) [[for]] the separating said platinum group element containing leaching residue and said selenium/tellurium leachate is a step for comprises conducting a solid-liquid separation using water leaching, thus separating a mixture into a the liquid~~

fraction ~~containing~~ comprising sodium selenite, and ~~[[a]] the residue containing~~ comprising the platinum group elements.

3. (Currently Amended): ~~[[A]]~~ The separation process according to claim 2, wherein a molar ratio between said caustic soda and said sodium nitrate ranges from ~~is within a range~~ from 75:25 to 85:15.

4. (Currently Amended): ~~[[A]]~~ The separation process according to claim 2, wherein after C), hydrogen peroxide and hydrochloric acid are added to said residue comprising the ~~containing~~ platinum group elements to dissolve said platinum group elements.

5. (Currently Amended): ~~[[A]]~~ The separation process according to claim 2, wherein said material comprising the selenium and/or the tellurium, and the ~~containing~~ ~~selenium/tellurium and~~ platinum group elements is an extraction residue process precipitate left after a solvent extraction has been used to separate gold from a hydrochloric acid leachate from a decoppered slime.

6. (Currently Amended): ~~[[A]]~~ The separation process according to claim 2, wherein said material comprising the selenium and/or the tellurium, and the ~~containing~~ ~~selenium/tellurium and~~ platinum group elements is a distillation residue produced by converting a decoppered slime to a slurry by adding hydrochloric acid and hydrogen peroxide, filtering said slurry to effect a separation into a leaching residue comprising ~~containing~~ primarily silver, and a leachate ~~containing~~ comprising gold, the platinum group elements, the selenium and/or the tellurium, subsequently adjusting liquid characteristics of

said leachate and then using a solvent extraction to separate the gold from said leachate, adding sulfur dioxide to a post-gold extraction liquid to sequentially reduce and precipitate out the selenium and then the tellurium, and then heating said precipitated material ~~containing~~ comprising the platinum group elements and selenium to concentrate the platinum group elements, while distilling and separating off selenium.

7. (Currently Amended): A separation process for platinum group elements comprising:

(A) treating a material comprising selenium and/or tellurium, and platinum group elements, with alkali,

(B) leaching the selenium and/or tellurium, and

(C) separating a leaching residue comprising a platinum group element and a selenium and/or tellurium leachate,

~~A separation process according to claim 1, wherein~~
said ~~[[step]]~~ (A) ~~for treating a material containing selenium/tellurium and platinum group elements with alkali,~~ and said ~~[[step]]~~ (B) ~~for leaching selenium/tellurium~~ are conducted simultaneously as an alkali leaching process, ~~in which~~

and

wherein the material comprising the selenium and/or tellurium and the platinum group elements is leached with alkali at high temperature ranging from 60 °C to 80 °C, causing the selenium and/or tellurium selenium/tellurium to migrate into an alkali liquid, and a solid-liquid separation is then conducted to separate a resulting mixture into a solid fraction comprising the ~~containing~~ platinum group elements, and a liquid fraction comprising the selenium and/or tellurium ~~containing selenium/tellurium.~~

8. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein hydrochloric acid and an oxidizing agent are added to the ~~a-separated~~ solid fraction generated in said solid-liquid separation, thus dissolving said platinum group elements.

9. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein said material containing selenium and/or tellurium ~~selenium/tellurium~~ and the platinum group elements comprises both selenium and tellurium, and wherein the material containing selenium and tellurium is leached with alkali at the high temperature, causing the tellurium to migrate into said alkali liquid with the selenium, thus effecting a separation of said platinum group elements.

10. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein said material comprising the selenium and/or tellurium ~~containing selenium/tellurium~~ and the platinum group elements is leached using an alkali concentration of at least 1 mol/L, ~~at a temperature of at least 60 °C.~~

11. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein hydrochloric acid and either hydrogen peroxide or chlorine gas are added to said solid fraction from said solid-liquid separation performed after said alkali leaching, thus dissolving said platinum group elements.

12. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein said platinum group elements comprise one or more of rhodium, ruthenium, palladium and platinum.

13. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein said material comprising the selenium and/or tellurium, and the containing selenium/tellurium and platinum group elements is an extraction residue process precipitate left after a solvent extraction has been used to separate gold from a hydrochloric acid leachate from a decoppered slime.

14. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, wherein said material comprising the selenium and/or tellurium, and the containing selenium/tellurium and platinum group elements is a filtered precipitate produced educed by converting a decoppered slime to a slurry by adding hydrochloric acid and hydrogen peroxide, filtering said slurry to effect a separation into a leaching residue comprising containing primarily silver, and a leachate containing comprising gold, the platinum group elements, the selenium and/or tellurium, subsequently adjusting liquid characteristics of said leachate and then using a solvent extraction to separate gold from said leachate, adding sulfur dioxide to a post-extraction liquid to precipitate the selenium and/or the tellurium either selenium/tellurium, and then subjecting said precipitate to solid-liquid separation.

15. (Currently Amended): A separation process for platinum group elements comprising: (A) treating a material containing selenium and tellurium and platinum group elements with alkali, (B) leaching the selenium and the tellurium, and (C) separating a platinum group element-containing leaching residue and a selenium and tellurium leachate, the process further comprising A separation process according to claim 7, comprising: an alkali melt process (i), comprising a step for adding a flux comprising a mixture of caustic soda and sodium nitrate to a residue from a distillation treatment of a material containing the

selenium and the tellurium ~~selenium/tellurium~~ and the platinum group elements, and then heating to a temperature exceeding a melting (eutectic) temperature of said mixture, thus dissolving said selenium and tellurium, ~~selenium/tellurium~~, as said step (A) for conducting said alkali treatment, a step for conducting water leaching as said step (B) for leaching ~~selenium/tellurium~~ the selenium and the tellurium, and further comprising said step (C) for separating said platinum group element-containing leaching residue and said ~~selenium/tellurium~~ selenium and tellurium leachate, and an alkali leaching process (ii), comprising a step for leaching the material containing ~~selenium/tellurium~~ the selenium and the tellurium and platinum group elements with alkali at high temperature as said step (A) for conducting said alkali treatment and said step (B) for leaching selenium/tellurium, and further comprising said step (C) for separating said platinum group element-containing leaching residue and said ~~selenium/tellurium~~ selenium and tellurium leachate.

Claim 16 (Currently Amended): [[A]] The separation process according to claim 15, wherein a solution containing selenium and tellurium ~~selenium/tellurium~~ and platinum group elements is subjected to a reduction treatment, and a residue generated by subjecting a portion of a resulting reduction precipitate to distillation treatment is then subjected to alkali melt treatment, while remaining reduction precipitate is subjected to alkali leaching treatment.

Claim 17 (Currently Amended): [[A]] The separation process according to claim 15, wherein sulfur dioxide gas is introduced into a post-gold extraction liquid ~~of a noble metal recovery system for copper electrolysis slime~~ which is obtained by recovering noble metals from copper electrolysis slime to effect a reduction treatment, and a residue, ~~generated by~~

~~subjecting a selenium that precipitates first to distillation to effect a separation of high purity selenium, containing selenium which is precipitated first in the reduction treatment is distilled to separate selenium and is subjected to the alkali melt process (i), whereas a residue containing tellurium which is precipitated next in the reduction treatment is subjected to the alkali leaching process (ii) is subjected to alkali melt treatment, whereas a tellurium that precipitates next is subjected to alkali leaching treatment.~~

Claim 18 (Currently Amended): [[A]] The separation process according to claim 15, wherein a leachate obtained in said water leaching of said alkali melt process is recycled to said alkali leaching process, and subjected to alkali leaching together with [[a]] the material containing the selenium and tellurium ~~selenium/tellurium~~ and platinum group elements.

Claim 19 (Currently Amended): [[A]] The separation process according to claim 15, wherein [[a]] the leachate obtained in said alkali leaching process is neutralized by adding sulfuric acid or hydrochloric acid, thus precipitating the selenium and the tellurium ~~selenium/tellurium~~.

Claim 20 (Currently Amended): [[A]] The separation process according to claim 15, wherein hydrochloric acid is added to [[a]] the leaching residue generated in said alkali leaching process and said alkali melt process in presence of an oxidizing agent, thus dissolving said platinum group elements.

21. (Currently Amended): A separation process for platinum group elements comprising:

(A) treating a material comprising selenium and tellurium, and platinum group elements, with alkali,

(B) leaching the selenium and tellurium, and

(C) separating a leaching residue comprising the platinum group elements and a selenium and tellurium leachate,

~~A separation process according to claim 1,~~ wherein

a ~~selenium/tellurium~~ selenium and tellurium mixture is obtained from said ~~selenium/tellurium~~ selenium and tellurium leachate, and said obtained selenium and tellurium ~~selenium/tellurium~~ mixture is then introduced into a copper smelting and refining process to generate an alloy of selenium and tellurium with copper, said alloy is subjected to copper electrolysis to recover electrolytic copper, while accumulating selenium and tellurium within a copper electrolysis slime, and said copper electrolysis slime is then subjected to sulfuric acid oxidizing leaching, thus dissolving and separating tellurium in a leachate from selenium in a leaching residue.

22. (Currently Amended): ~~[[A]]~~ The separation process according to claim 7, comprising selenium and tellurium, wherein a ~~selenium/tellurium~~ selenium and tellurium mixture is obtained by adding sulfuric acid or hydrochloric acid to a ~~selenium/tellurium~~ selenium and tellurium leachate obtained in said alkali leaching process, thus neutralizing said leachate and precipitating said ~~selenium/tellurium~~ selenium and tellurium mixture, and said obtained selenium and tellurium ~~selenium/tellurium~~ mixture is then introduced into a copper refining process to generate an alloy of selenium and tellurium with copper, said alloy is subjected to copper electrolysis to recover electrolytic copper, while accumulating selenium and tellurium within a copper electrolysis slime, and said copper electrolysis slime

is then subjected to sulfuric acid oxidizing leaching, thus dissolving and separating tellurium in a leachate from selenium in a leaching residue.

Claim 23 (Currently Amended): ~~[[A]]~~ The separation process according to claim 15, wherein a ~~selenium/tellurium~~ selenium and tellurium mixture is obtained by adding a ~~selenium/tellurium~~ selenium and tellurium leachate obtained in said alkali melt process to a material containing selenium and tellurium ~~selenium/tellurium~~ and platinum group elements used in said alkali leaching process, subsequently conducting alkali leaching, and then adding sulfuric acid or hydrochloric acid to a resulting leachate to neutralize said leachate and precipitate said ~~selenium/tellurium~~ selenium and tellurium mixture, and said obtained ~~selenium/tellurium~~ selenium and tellurium mixture is then introduced into a copper smelting and refining process to generate an alloy of selenium and tellurium with copper, said alloy is subjected to copper electrolysis to recover electrolytic copper, while accumulating selenium and tellurium within a copper electrolysis slime, and said copper electrolysis slime is then subjected to sulfuric acid oxidizing leaching, thus dissolving and separating tellurium in a leachate from selenium in a leaching residue.

24. (Currently Amended): ~~[[A]]~~ The separation process according to claim 21, wherein

said material comprising the selenium, the tellurium, and the ~~containing~~ ~~selenium/tellurium~~ and platinum group elements is a reduction precipitate produced by introducing sulfur dioxide gas into a post-gold extraction liquid and conducting a reduction treatment.

25. (Currently Amended): [[A]] The separation process according to claim 21, wherein following a leaching of tellurium by sulfuric acid oxidizing leaching of said copper electrolysis slime, a resulting leachate is contacted with metallic copper, generating copper telluride which is subsequently recovered.

26. (Currently Amended): A separation process for platinum group elements comprising: (A) treating a material containing selenium and/or tellurium and platinum group elements with alkali, (B) leaching the selenium and/or tellurium, and (C) separating a platinum group element-containing leaching residue and a selenium and/or tellurium leachate,

~~A separation process according to claim 1,~~ wherein hydrochloric acid is added to the said platinum group element-containing leaching residue comprising the platinum group elements in presence of an oxidizing agent, a solid-liquid separation is conducted, and hydroxylamine hydrochloride is then added to a resulting filtered platinum group element-containing solution to selectively reduce and precipitate gold.

27. (Cancelled).

28. (Currently Amended): [[A]] The separation process according to claim 2, wherein hydrochloric acid is added to said residue comprising the platinum group elements ~~containing platinum group elements~~ in the presence of an oxidizing agent, a solid-liquid separation is conducted, and hydroxylamine hydrochloride is then added to a resulting filtered platinum group element-containing solution to selectively reduce and precipitate gold.

29. (Currently Amended): ~~[[A]]~~ The separation process according to claim 26,
wherein a post-gold extraction liquid ~~of a noble metal recovery system for copper electrolysis~~
~~slime which is obtained by recovering noble metals from copper electrolysis slime~~ is used as
[[a]] the material comprising the selenium, tellurium, containing selenium/tellurium and
platinum group elements, and sulfur dioxide gas is introduced into said post-gold extraction
liquid to effect a reduction treatment, and a ~~distillation residue generated by subjecting a~~
~~selenium that precipitates first to distillation to effect a separation of high purity selenium~~
residue containing selenium which is precipitated first in the reduction treatment is distilled
to separate selenium, and is subjected to an alkali melt treatment to separate a residue
containing platinum group elements, whereas a residue containing tellurium that precipitates
~~on~~ which is precipitated next by introducing further sulfur dioxide gas ~~introduction~~ into said
post-gold extraction liquid is subjected to alkali leaching treatment to separate a residue
containing platinum group elements, and said residues containing platinum group elements
are ~~then combined and used~~ reused.